

2013 Report on Drinking Water Quality for Flemingsburg Utility System PWSID#0350134

THIS REPORT CONTAINS INFORMATION ABOUT YOUR DRINKING WATER

Why Am I Receiving This Report?

This report discusses the quality of the water delivered to your tap by the City of Flemingsburg. We strive to produce the best quality of water possible. This means we want you to always have water that:

- Has a clean taste
- Is clear and crisp in appearance
- Never has an unpleasant smell
- Is safe and healthful to drink

Where Does Your Water Come From and How is it Susceptible to Contamination?

We have three sources of water, surface and groundwater: (1) city of Flemingsburg Water Treatment Plant (2) Purchased water from the City of Maysville (3) Purchased water from The Greater Fleming County Regional Water Commission. The reservoir located northwest of Flemingsburg is the source of raw water for the city of Flemingsburg Water Treatment Plant. The Water from the reservoir is piped to the treatment plant where it is treated and disinfected before being piped to our customers. Access to the reservoir is restricted to protect our water from contamination. Treated water purchased from the Maysville Utility Commission is treated at the Maysville Water Treatment Plant and uses the Ohio River as its raw source. Treated water purchased from The Greater Fleming County Regional Water Commission is treated at The Greater Fleming County Regional Water Commission Plant and uses well in the Ohio River Alluvium as its raw water source. Consumers may receive a mixture of water from Flemingsburg and or Maysville and or The Greater Fleming County Regional Water Commission. The Buffalo Trace Area Development District completed a source water assessment plan for the Flemingsburg Water Treatment Plant, Maysville Utility Commission and the Greater Fleming County Regional Water Commission. You may contact Laura Jefferson at the Buffalo Trace ADD (Telephone 606-564-6894) for more information.

The Greater Fleming County Regional Water Commission uses groundwater supplied by three wells located in northwestern Lewis County. These wells are constructed in the Ohio River Alluvium. Alluvial deposits of clay, silt, sand, and gravel are as much as a few feet wide and attained a maximum thickness of 140 feet. Large quantities of water are available towels drilled through the alluvial plain. A contaminant source water plan inventory of the area was completed which turned up eleven potential sources of contamination. Of these five were unused wells formally used as home water sources or for watering livestock. Two identified potential of greatest concern are, railroad, which runs through the WHPA and a nitrate source, which has been attributed to what was once a fertilizer storage area. The railroad is operated by CSX Corporation out of Jacksonville, FL. Land use also plays a role in susceptibility. Approximately 224 acres of agricultural land, and 580 acres of unmanaged woodland lie within the WHPA. There are also two (2) residential septic systems located in the WHPA. Analysis indicates two of these sources; the nitrate source and the railroad, to have a high susceptibility ranking while the remaining have a medium ranking. This gives an overall susceptibility ranking of medium. The complete source water assessment is available at The Greater Fleming County Regional Water Commission.

The Maysville Utility Commission uses surface water. Activities and land uses upstream of the Mayville commission's source of water can pose potential risks to your drinking water. Under certain circumstances, contaminants could be released that would pose challenges to water treatment, or even get into your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. Activities immediately upstream of your water supply intake are of special concern because they provide little response time to the water system operators. An analysis of the susceptibility of the Maysville Utility Commission's raw water supply to contamination indicates that the susceptibility potential is generally high. There are several areas of high concern near the raw water withdrawal site.

These sites of high concern include: Ports along the Ohio River where accidental spills of chemicals and petroleum products can occur, bridges located near the intake site pose a potential threat to the intake should an accidental release of a harmful substances be introduced into the water source; also railroads, row crops where agricultural chemicals can runoff into the water, abandoned oil or gas wells, active superfund sites, underground storage tanks, KPDES permitted discharges, areas with hazardous chemical usage and waste generators or transporters. Other sites of medium concern include an historical landfill site and an abandoned oil or gas well.

The city of Flemingsburg utilities uses surface water. An analysis of the susceptibility of the Flemingsburg utilities raw water supply to contamination indicates that the susceptibility potential is generally moderate. The only potential site that is likely to create some risk of contaminants entering Flemingsburg's reservoir is one where waste is generated or transported. This site falls outside of the reservoir's critical zone and has no significant violation history.

If You Have Questions or Want to Get Involved

Questions about this report or operation of the water plant can be directed to Mr. Joe Dunaway at 606-845-6861. The City of Flemingsburg meets on the second Monday of each month at 7:00 pm at the City Annex Building, 160 West Electric Avenue, Flemingsburg, Kentucky 41041.

Understanding This Report

In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

Maximum Contaminant Level Goal (MCLG): It is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): This is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL): Is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): Is the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level (AL) An action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

NTU means Nephelometric Turbidity Units and is a measure of turbidity (cloudiness).

ppm means parts per million or milligrams per liter and is a measure of the concentration of a contaminant.

ppb means parts per billion or micrograms per liter and is a measure of the concentration of a contaminant.

Treatment Technique (TT) is a required process intended to reduce the level of a contaminant in drinking water

ppm means parts per million or milligrams per liter and is a measure of the concentration of a contaminant.

ppb means parts per billion or micrograms per liter and is a measure of the concentration of a contaminant.

pCi/L means picocuries per liter and is a measure of radioactivity

N/A means not applicable for this item

Flemingsburg Utilities constantly monitors contaminants in your drinking water according to Federal and State regulations. Only contaminants that were actually detected by laboratory testing appear in the table below. Except as otherwise noted "level found" is the highest level detected. In addition to the contaminants listed below, coliform bacteria was tested throughout the year with none being detected. Most of the results in this table are from monitoring during the 2013 calendar year. However, some contaminants are not required to be monitored on an annual basis and so the results may be from prior years.

Special Information on Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Flemingsburg Utility System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

City of Flemingsburg Water Treatment Plant Water Quality Data 2013

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Unless otherwise noted, the report level is the highest level detected.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source		
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.047	100	No	Soil runoff		
Regulated Contaminant Test Results							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Inorganic Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.240 (90 th percentile)	0.01 to 0.86	Aug. 2012	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.29	0.81 to 1.29	Sept 2013	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2 (90 th percentile)	0 to 3	Aug. 2012	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.87	0.87 to 0.87	Oct-13	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Disinfectants/Disinfection Byproducts and Precursors							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.81 (lowest average)	1.03 to 3.92 (monthly ratios)	N/A	No	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average of the monthly ratios must be 1.00 or greater for compliance.							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	0.77 (highest average)	0.20 to 1.80	N/A	No	Water additive used to control microbes.
HAA (ppb) [Haloacetic acids]	60	N/A	36 (highest average)	15.5 to 51.5 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	80	N/A	35 (highest average)	28 to 41 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection.

EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.

Greater Fleming County RWC Water Quality Data 2013

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Unless otherwise noted, the report level is the highest level detected.

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Combined radium [pCi/L]	5	0	0.8	0.8 to 0.8	Jul-12	No	Erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.92	0.77 to 1.21	Feb-13	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	3.28	0.99 to 3.28	Apr-13	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.08 (highest average)	0.53 to 1.42	N/A	No	Water additive used to control microbes.
HAA (ppb)(all sites) [Haloacetic acids]	60	N/A	8 (system average)	8 to 8 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80 80	N/A N/A	11 (system average)	11 to 11	N/A	No	Byproduct of drinking water disinfection.

Maysville Utility Commission Water Quality Data 2013

Contaminant (units)	MCLG	MCL	Level Found	Range of Detections	Violation	Date(s) of Sample(s)	Typical Source of Contaminants
Regulated Volatile Organic Compounds (VOC's)							
Trihalomethanes – THMs (ppb)	N/A	80	57.2 (highest annual running average)	13-98 (based on individual samples)	NO	Quarterly in 2013	By-product of drinking water chlorination (disinfection).
Haloacetic Acids – HAA5 (ppb)	N/A	60	25.7 (highest annual running average)	8-38 (based on individual samples)	NO	Quarterly in 2013	By-product of drinking water chlorination (disinfection)
Volatile Disinfectant Compounds							
Chlorine (ppm)	MRDLG =4	MRDL=4	1.19 (highest running annual average)	0.3 – 2.01	NO	Several times per month in 2013	Water additive used to control microbes
Synthetic Organic Contaminants							
Di(2-ethylhexyl) adipate (ppb)	400	400	0.22	0-0.22	NO	2011	Runoff from herbicide used on row crops.
Inorganics							
Barium (ppm)	2	2	0.035	N/A	NO	2/2013	Discharge of drilling wastes; Erosion of natural deposits
Copper (ppm)	1.3	AL=1.3	0.144 (90 th percentile value)	0.01-0.269 (no sites > AL)	NO	9/2013	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.7	0.7-0.7	NO	Twice in 2013	Erosion of natural deposits; Water additive which promotes strong teeth
Lead (ppb)	0	AL=15	2 (90 th percentile value)	0 – 5 (no sites > AL)	NO	9/2013	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate (ppm)	10	10	0.9	N/A	NO	2/2013	Runoff from fertilizer use; Erosion of natural deposits.
Radioactive Contaminants							
Combined Radium 226/228 (pCi/L)	0	5	0.3	N/A	NO	2011	Erosion of natural deposits
Gross Alpha Excluding Radium and Uranium (pCi/L)	0	15	0.2	N/A	NO	2011	Erosion of natural deposits
Microbiological and Related Contaminants							
Total Coliform Bacteria (# or % positive samples)	0	1	1	N/A	YES	Monthly in 2013	Naturally present in the environment
Total Organic Carbon (measured as ppm but reported as a ratio)	TT see footnote 1 below		1.53 (annual average of ratios)	1.35-1.58	NO	Monthly in 2013	Naturally present in the environment
Particulate Contaminants							
Turbidity (NTU) See footnote 2 below	95% of all monthly samples must be less than 0.3 NTU (TT) and no samples greater than 1 NTU		Highest single measurement was 0.37. Lowest monthly percentage was 93.5% in 12/2013.		YES	Continu-ously in 2013	Soil and stormwater runoff.

Footnotes

1 – Treatment technique (TT) is based on the lowest running annual average of the ratios of the % Total Organic Carbon (TOC) achieved to the TOC removal required. A minimum ratio of 1.00 is required to meet the TT. Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes, or THMs, and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

2 – Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses and parasites which can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Violations

The Flemingsburg Utility System received one violation in 2013. The total coliform detects for July 2012 were not reported in the 2012 CCR. While this was a violation, it did not affect the quality of our water. We will work in the future to ensure that reporting problems like this do not happen again. The Maysville Utility Commission received two (2) violations in 2013. During the period of 12/1/2013 to 12/31/13, the system reported turbidity readings in violation of the MCL for turbidity by exceeding 0.3 NTU in more than 5% of the samples during that month. A malfunctioning coagulant feed line caused the higher than normal turbidity readings. The equipment was replaced and no further violations occurred.

Why Are There Contaminants in My Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants which can be naturally occurring or the result of oil and gas production or mining.

In order to ensure that your water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protections for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Do I Need to Take Any Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800)-426-4791.

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.
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